

Caribou Comeback:

Recovering an iconic
species at risk in
Jasper National Park



Caribou herds in Jasper National Park are at risk

Caribou have roamed the peaks and valleys of what is now Jasper National Park for millennia. They rely on the vast and undisturbed habitat found in the mountains and forests of the Rocky Mountains. During long, cold winters caribou survive by digging through snow-covered slopes to eat lichens. That survival is now precarious.

Precise historical caribou population sizes in Jasper National Park are difficult to know. We do know that the numbers of mountain caribou used to be much larger and more widely distributed than they are today. Both Indigenous knowledge-holders and archaeological research have identified the coexistence of humans and caribou in this landscape for thousands of years. A radiocarbon-dated caribou antler, found melted out of an ice patch, shows that caribou have existed here for at least 1300 years. More recently, written records from the early 1970s show that there were several herds with hundreds of animals. But over the last fifty years, those numbers have become drastically lower.

Populations are now so small that they cannot recover on their own. By rebuilding the dwindling herds of caribou in Jasper National Park, we can ensure the continued existence of some of the world's southernmost caribou.

Parks Canada commits to "protect, as a first priority, the natural and cultural heritage of our special places and ensure that they remain healthy and whole."

Parks Canada Charter

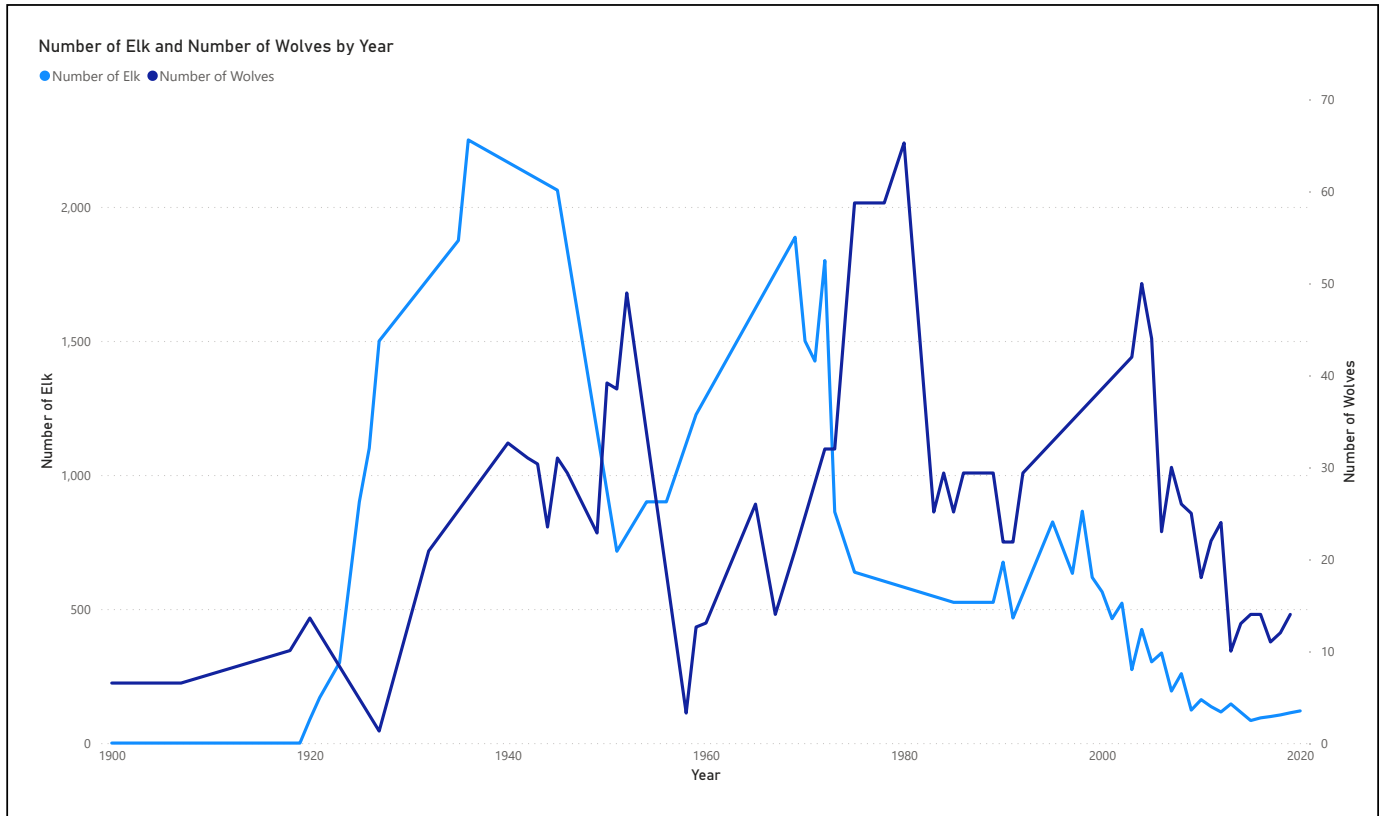
Park management practices of the early 1900s are at the root of the problem

When Jasper National Park was established in 1907, elk and wolf populations were naturally low. Two wildlife management practices introduced in the early 1900s altered elk and wolf populations for decades. This had long-term effects on caribou.





Photo by Layla Neufeld.



Eighty-nine elk were reintroduced to Jasper National Park in 1920 (after being hunted to local extinction). At the same time, a program to cull wolves kept predator numbers very low. Without predators, the elk population soared to a height of roughly 3000 in the mid-1930s and remained high, numbering about 2500 into the late 1960s. When wolf control practices ended in 1959, wolves had a plentiful food source of elk and quickly multiplied in the park.

Mountain caribou avoid predators like wolves by living at higher elevations. As the density of wolves increased after

wolf control ended, wolves used caribou habitat more often and they naturally preyed on caribou they came across. Wolf density remained high between 1959 and 2006. During this period, the population and distribution of elk eventually declined. Caribou populations also declined, but to a much greater degree - caribou are less abundant and less resilient than elk.

Wolf numbers remained high for many decades but naturally declined as elk became less plentiful. As resource managers came to better understand these dynamics between predator and

prey, Parks Canada developed wildlife management practices to lessen human influence. This included moving elk away from the town where they take refuge from predators. Parks Canada also began incinerating roadkill rather than discarding it into gravel pits where wolves could access it and supplement their diet. But by the time wolf populations in the park declined to more sustainable levels in 2014, the Maligne, Brazeau, and Tonquin caribou herds had become very small.



Photos by Layla Neufeld.

Parks Canada has acted to reduce many of the influences on caribou decline

Parks Canada has taken steps to reduce many of the threats to caribou in Jasper National Park. Over the past fifteen years, these actions have reduced human influence on wolf and elk populations, limited the effects of human recreation on caribou, and protected caribou habitat. (See insert for details)

Taking these steps has created better conditions for caribou survival and recovery. However, it seems that our actions could not overcome the impact of high wolf density on caribou herds before 2014. When herds get too small, they become more vulnerable to natural threats such as predators, disease, and accidents. Now, reducing threats to the herds is not enough because caribou populations are so small, they cannot recover on their own.

The Canada National Parks Act and Species at Risk Act protect caribou and their habitat. Parks Canada implemented the following actions in Jasper National Park between 2006 and 2021:

- Changed how we disposed of roadkill so that wolves can no longer access it and artificially supplement their diet, to prevent unnatural predator population growth.
- Closed occupied caribou ranges in winter, so human trails and roads don't give wolves easy access to the herds.
- Discontinued cross-country ski track-setting and the use of snowmobiles (for park or outfitter operations) in caribou habitat, to prevent wolves from using trails to access the herds in winter.
- Approved Marmot Basin Ski Area's site guidelines and long-range plan, which reduced the ski area's leasehold by 17% and rezoned that area to wilderness, and prohibited ski lift development in off-piste ski runs.
- Prohibited access to bicycles, dogs, and landing and takeoff by hanggliders and paragliders in caribou habitat, to avoid disturbing caribou.
- Prohibited trail development, limited the number of random camping permits available, and reduced random camping group sizes in caribou habitat.
- Established guidelines for aircraft to avoid disturbing caribou.
- Implemented reduced highway speed zones and warning signs to protect caribou from traffic.
- Ongoing assessments of projects, including prescribed fire, for their impact on caribou and caribou habitat.
- Ongoing monitoring of wolves, elk, deer, and caribou to understand changes in their populations.
- Ongoing research and monitoring to understand the potential for large-scale habitat changes caused by fire, forest insects, climate change, human activities, the introduction of non-native species to an ecosystem, or wildlife management practices.



Photos (top to bottom):
Mark Bradley,
Layla Neufeld.

Without intervention, the only two herds remaining entirely within Jasper will disappear

Two of the five documented caribou herds in Banff and Jasper national parks are gone. The last five members of the Banff herd died in an avalanche in April 2009. The Maligne herd persisted for nearly 15 years in Jasper with fewer than ten animals. But with no signs of the last three caribou since 2018, Parks Canada now considers the Maligne herd extirpated (locally extinct.) Caribou continue to persist in small numbers in the Tonquin and Brazeau herds of Jasper National Park, and in larger numbers in the À la Pêche herd on Jasper's northern boundary.

Parks Canada estimates that as of 2020, the Tonquin herd consists of 49-55 caribou, and the Brazeau herd has fewer than 15 caribou. These two herds have had low, but stable numbers since 2015. However, the number of female caribou is now so small – an estimated 9 in the Tonquin and 3 in the Brazeau – that these herds will not produce enough calves each year to grow the herds.

The À la Pêche herd is a partially migratory herd of about 150 animals (2018 estimate) that are primarily managed and monitored by the Province of Alberta. Some animals in the herd stay in Jasper National Park year-round, some stay in the foothills of Alberta's Rocky Mountains, and some migrate back and forth. This herd has stabilized and is growing as a result of the Province of Alberta's recovery efforts, including wolf management, outside of national park boundaries.

Current conditions in Jasper National Park support rebuilding caribou populations

Jasper National Park has abundant habitat for caribou. Current ecological conditions are also favourable to support larger caribou herds.

“Canada’s protected areas, especially national parks, are vital to the protection and recovery of species at risk.”

Species at Risk Act

Parks Canada's conservation actions have reduced threats to caribou and contributed to a natural and steady decline in wolf and elk density over the past decade. The elk population is estimated to be 300-375 animals (2018 estimate), a level that does not encourage predator growth. Current wolf density is also at a level that no longer poses a significant threat to healthy, sustainable caribou herds. Wolf density in Jasper was less than 1.85 wolves per 1000 km² from 2017-2020 (compared to 3.4 in 2011 and 6.2 in 2004). This is below the 3 wolves per 1000 km² recommended for caribou to be able to persist in the *Recovery Strategy for the Woodland Caribou, Southern Mountain Population (Rangifer tarandus caribou) in Canada 2014*.

Parks Canada continues to take actions to maintain the ecological conditions needed to support the existing caribou population and a potential conservation breeding and release program.

A conservation breeding program is the best option to rebuild herds in Jasper National Park

Parks Canada's wildlife specialists have worked with experts from government, Indigenous partner communities, and academia and conservation organizations around the world to understand how to best protect and recover caribou in Jasper National Park.

As part of the broader *Multi-Species Action Plan for Jasper National Park 2017*, Parks Canada has developed a proposal to rebuild the Tonquin and Brazeau caribou herds, and eventually the Maligne herd, through conservation breeding.

Through a conservation breeding and release program, the first of its kind for caribou in Canada, Parks Canada would:

- capture a small number of wild caribou from regional herds,
- breed them in a protected facility in Jasper National Park,
- release young animals born in the facility into the Tonquin herd of wild caribou,
- monitor the animals and adapt the program based on what is learned along the way, and
- potentially reintroduce captive-bred caribou into areas of the park where herds have disappeared.

Parks Canada envisions a future with caribou herds that can thrive on their own

To achieve a future where caribou herds can thrive on their own, we have explored several options to support caribou recovery.

Based on extensive research and consultation with experts in caribou ecology and conservation breeding, and a comprehensive scientific review, Parks Canada is confident that:

- Without our help, the Tonquin and Brazeau herds will disappear and caribou will not return to the historic Maligne or Banff caribou ranges.
- Jasper National Park provides a unique, protected space where southern mountain caribou herds may have the best chance of recovery and long-term survival. With continued action by Parks Canada to minimize threats to caribou, the existing ecological conditions in the park can support larger caribou populations.
- A conservation breeding and release program has the highest chance of success to prevent the extirpation of caribou in Jasper National Park and to support self-sustaining herds. Other strategies to increase the population size of these herds (such as maternity penning, direct translocation, or predator fencing) are not likely to be effective or feasible as a primary strategy in Jasper National Park.
- Chances of success are better while wild caribou and their natural characteristics and behaviours remain in the park. Wild caribou can guide the animals bred in captivity in their return to the wild herds.

- The long-term recovery of caribou in Jasper National Park requires a collaborative effort between Parks Canada, provincial governments, Indigenous peoples, and park users. There is no one-size-fits-all solution, nor is there one approach guaranteed to restore nature's balance. Ongoing monitoring and research to understand the risk of predation on caribou, the impacts of our conservation actions, and the impacts of climate change and other uncertainties will guide how Parks Canada adapts its conservation measures.

Next steps: more research, understanding the project impact and hearing from you

The Government of Canada has provided funding for Parks Canada to further protect ecological integrity and contribute to the recovery of species at risk. Budget 2021 made over \$24 million available for caribou conservation in Jasper National Park. Through this funding, Parks Canada is moving forward with developing details of the proposal and planning consultation with Indigenous partners and the Canadian public.

More research and collaboration are underway to help us better understand aspects of the proposal in more detail. This includes:

- confirming which regional source herds are genetically and behaviourally suitable,

- working with partners to agree on the best approaches to sourcing animals for the program and how the program can support caribou conservation throughout the region,
- developing a detailed design for the proposed facility and a wildfire protection plan, and
- researching how to give caribou bred in captivity the best chance of survival once they are released back into the wild herd.

Following consultation and an impact assessment process, Parks Canada will decide whether or not to move forward with a conservation breeding program and building the facility in Jasper National Park.

“The woodland caribou is an iconic species that is an important part of the natural and cultural history of Canada. Through this important initiative, the Government of Canada is moving forward with concrete action to assist the species in its recovery within the boundaries of Jasper National Park – a special protected place that provides the best scenario for a successful conservation effort.”

The Honourable Jonathan Wilkinson,
former Minister of the Environment and
Minister responsible for Parks Canada



Photo by Layla Neufeld.

A vision for future caribou herds in Jasper National Park

Parks Canada could, at the earliest, bring wild caribou into a facility in Jasper National Park in early 2025. That means the first yearlings born in the facility could be released into the Tonquin herd the following year. Modelling shows a good probability that 14-18 females could be born to about 40 adult females in captivity each year, with most being released into the wild. Male yearlings would be released too, but it's the females that determine how quickly the herd can reach sustainable levels by producing new generations of calves.

The goal is to rebuild the Tonquin herd to 200 caribou within 5-10 years after the first caribou are released. Based on the experience and results with the Tonquin herd, Parks Canada would explore releasing animals back into the Brazeau and Maligne ranges to reach populations of 300-400 caribou in Jasper National Park.

It's important to remember that there is some uncertainty in programs like this. There are risks and there could be project delays along the way. Some caribou will die in captivity and others after release into the wild, as they do normally. However, research shows that taking the risks into account, this program has a good chance of successfully restoring these herds to their traditional habitat, rather than losing them forever.

All Canadians have a role to play in this important conservation story

Parks Canada is seeking input from many important groups of people, and in particular:

- partners within the Provinces of British Columbia and Alberta,
- other scientists and researchers,
- Indigenous people, whose history and culture are linked with the caribou and who have been stewards of caribou and the land for millennia, and

- the Canadian public, for whom caribou are part of our wilderness and our identity.

Efforts to protect caribou and critical caribou habitat in Jasper National Park are part of a broader effort by federal and provincial governments as well as Indigenous partners, peoples, and Canadians to support the recovery of woodland caribou across Canada.

To learn more about caribou in Jasper National Park visit parksCanada.ca/caribou-jasper or email caribou@pc.gc.ca.

Join our mailing list to receive information about the caribou conservation program in Jasper National Park, including research, monitoring, conservation breeding, and consultation. Sign up on our website at parksCanada.gc.ca/jasper-mailing-list.



Cover and back cover photos by Layla Neufeld.